

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. An article having on at least a portion of its surface, a coating of a thin transition layer consisting of metal bearing material and having a composition that varies from a first composition to a second composition, which transition layer performs more than one function.

2. The article of claim 1 wherein the transition layer is superimposed on a metal bearing color layer.

3. The article of claim 2 in which one or more intermediate layers are interposed between the transition layer and the metal bearing color layer, said intermediate layer(s) being colorless, transparent and less than 400 Å in thickness.

0.04 μm

4. The article of claim 1 in which the first composition is a non-precious refractory metal chosen from the group consisting of Ti, Zr or Hf, or an alloy thereof.

5. The article of claim 1 in which the first composition is a noble metal chosen from the group consisting of gold, silver, platinum, platinum group metals, or an alloy thereof.

6. The article of claim 1 in which the first composition is a corrosion resistant metal chosen from the group consisting of chromium or stainless steel, or an alloy thereof.

7. The article of claim 2 in which the metal bearing color layer has the same composition as the second composition in the transition layer.

8. The article of claim 2 in which the composition of the metal bearing color layer is chosen from one or more of Zr, Ti, Hf, C and N.

9. The article of claim 2 in which the first composition is zirconium metal and the second composition is chosen from one or more of Zr, Ti, Hf, C and N.

10. The article of claim 1 in which the transition layer is deposited by a PVD process.

11. The article of claim 8 in which the metal bearing color layer is deposited by a PVD process.

12. The article of claim 1 in which the transition between the first composition and the second composition of the transition layer is smooth.

13. The article of claim 1 in which the transition from the first composition to the second composition in the transition layer is in discrete steps.

14. The article of claim 1 in which a first purpose of the transition layer is to be essentially transparent and colorless to visible light and a second purpose of the transition layer is to provide corrosion resistance.

15. An article of manufacture having on at least a portion of its surface a thin transition layer consisting of a metal bearing material having a composition that varies from a first exterior composition to a second composition beneath the exterior composition and in which the first composition has, at least in part, the function of corrosion protection and in which the second composition determines the visible color of that portion of the article surface to which the transition layer is applied.

16. The article of claim 15 in which the transition layer is superimposed on a metal bearing color layer and the second composition of the transition layer is essentially transparent.

17. The article of claim 15 in which the visible color of that portion of the article surface to which the transition layer is applied is determined by the second composition.